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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,715	05/24/2004	Kuo-Hsing Cheng	11586-US-PA	3714

31561 7590 08/30/2007

JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE
7 FLOOR-1, NO. 100
ROOSEVELT ROAD, SECTION 2
TAIPEI, 100
TAIWAN

EXAMINER	
MOON, SEOKYUN	
ART UNIT	PAPER NUMBER
2629	

NOTIFICATION DATE	DELIVERY MODE
08/30/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USA@JCIPGROUP.COM.TW

Office Action Summary	Application No.	Applicant(s)	
	10/709,715	CHENG, KUO-HSING	
	Examiner	Art Unit	
	Seokyun Moon	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 June 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 May 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. The Applicants' arguments with respect to claims 1 and 5 have been considered but are moot in view of the new ground(s) of rejection.

Remark

2. The subject matter disclosed in the specification of the current application might be different and distinguishable from the prior arts of record. However, Examiner respectfully submits that the Applicants have failed to present such subject matters in the claims specifically enough to distinguish the current invention from the prior arts.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

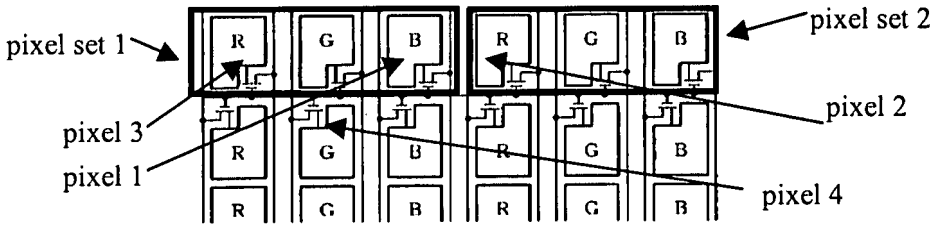
4. **Claims 1-4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawabe (US 2003/0146893) in view of Noguchi (US 7,084,849).

As to **claim 1**, Sawabe teaches a driving method for a pixel array [fig. 2], at least one row of the pixel array comprising a plurality of pixel sets (groups of three divisional pixels "*R*", "*G*", "*B*"), and at least one of the pixel sets comprising a plurality of pixels (divisional pixels "*R*", "*G*", "*B*"), the driving method comprising:

providing a plurality of voltages to a plurality of pixel electrodes of the pixels of one of the pixel sets [pars. (0101) and (0103)];

providing at least two voltages to the pixel electrodes of the pixels of two of the adjacent pixel sets respectively [pars. (0101) and (0103)];

driving two adjacent pixels ("*pixels 1* and *2*") [drawing 1 provided below, which is equivalent to fig. 2 of Sawabe] in two of the pixel sets respectively by a gate line; and



Drawing 1

driving a first pixel ("*pixel 3*") [drawing 1] in one of the pixel set and another pixel ("*pixel 4*") in an adjacent column of the first pixel by the gate line, wherein the first pixel and the another pixel are respectively in different rows of the pixel array.

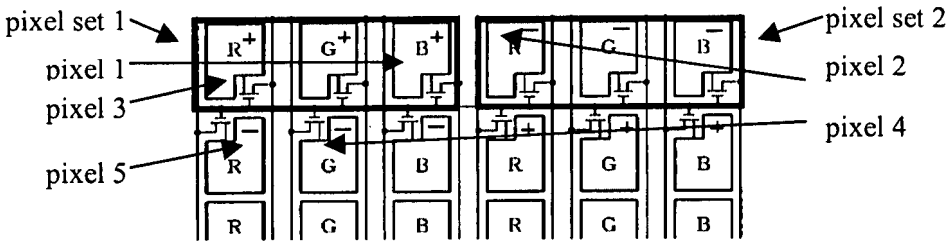
Sawabe does not expressly teach the driving method adopting three-dots polarity inversion. In other words, Sawabe does not expressly teach providing a plurality of voltages having substantially same phase to a plurality of pixel electrodes of the pixels of one of the pixel sets, providing at least two voltages with phases substantially opposite to each other to the pixel electrodes of the pixels of two of the adjacent pixel sets respectively, and specifying the phase of a voltage of a pixel electrode of the first pixel and a phase of a voltage of a pixel electrode of the another pixel being substantially different.

However, Noguchi teaches an idea of using three-dots polarity inversion method to drive a liquid crystal panel [col. 12 lines 32-36].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the driving method of Sawabe to include three-dots polarity inversion method, as taught by

Noguchi, in order to prevent changes on the polarizations of liquid crystals caused by applying data voltages having same polarity to the pixels for a long time period.

Sawabe as modified by Noguchi [drawing 2 provided below, which is equivalent to the pixel array of Sawabe driven by the three-dots polarity inversion method of Noguchi] teaches providing a plurality of voltages having substantially same phase ("+") to a plurality of pixel electrodes of the pixels of one of the pixel sets ("*pixel set 1*"), providing at least two voltages ("+" and "-") with phases substantially opposite to each other to the pixel electrodes of the pixels ("*pixels 1* and *2*") of two of the adjacent pixel sets ("*pixel sets 1* and *2*") respectively, and specifying the phase of a voltage of a pixel electrode of the first pixel ("*pixel 3*") and a phase of a voltage of a pixel electrode of the another pixel ("*pixel 4*") being substantially different.



Drawing 2

As to **claim 2**, Sawabe as modified by Noguchi teaches each of the pixel sets comprising three pixels [drawing 1 provided on page 3 of this Office Action].

As to **claim 3**, Sawabe as modified by Noguchi teaches a number of the pixels of each of the pixel sets is 3 * M, wherein M is a positive integer [drawing 1].

As to **claim 4**, Sawabe as modified by Noguchi teaches the other pixel ("*pixel 5*") [drawing 2] being disposed in an adjacent row of the first pixel ("*pixel 3*").

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

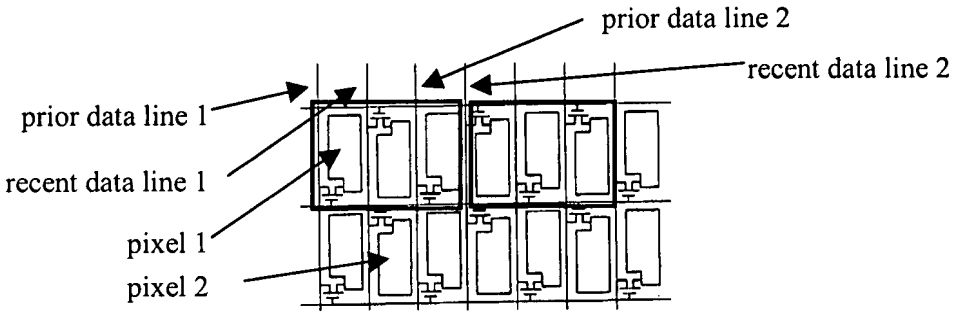
6. **Claims 5-7** are rejected under 35 U.S.C. 102(e) as being anticipated by Noguchi.

As to **claim 5**, Noguchi teaches a driving method for a pixel array [fig. 1], each row of the pixel array comprising at least one pixel set (a group of three consecutive pixels) [col. 12 lines 32-36], at least one of the pixel set comprising a plurality of pixels (the three consecutive pixels), and each pixel set corresponding to a data line set (a set of "*data bus lines 34*" sending data to the three consecutive pixels), the driving method comprising:

determining whether a prior data line and a recent data line belong to same data line set or not (as disclosed in col. 12 lines 32-36 of Noguchi, the polarity of data signals fed to the plurality of pixels is inverted every group of three consecutive pixels, and thus, in the display of Noguchi, if the data lines belong to same data line set, the signals having same polarity are transmitted through the data lines while the signals having different polarities are transmitted through the data lines if the data lines belong to different data line set. Therefore, it is inherent for the display of Noguchi to determine if a prior data line and a recent data line belong to same data line set or not, in order to send signals to the data lines with appropriate polarities);

wherein when the prior data line ("*prior data line 2*") and the recent data line ("*recent data line 2*") do not belong to same data line set, the recent data line is used to drive the pixel disposed after the pixel driven by the prior data line; and

when the prior data line ("*prior data line 1*") and the recent data line ("*recent data line 1*") belong to same data line set, the recent data line is used to drive a pixel ("*pixel 2*") disposed in another row apart from the pixel ("*pixel 1*") driven the prior data line, wherein the pixel driven by the prior data line and the pixel driven by the recent data line are driven by the same gate line.



Drawing 3

As to **claim 6**, Noguchi teaches each of the pixel sets comprising three pixels [col. 12 lines 32-36].

As to **claim 7**, Noguchi teaches a number of the pixels of each of the pixel set being 3 * M, wherein M is a positive integer [col. 12 lines 32-36].

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seokyun Moon whose telephone number is (571) 272-5552. The examiner can normally be reached on Mon - Fri (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (572) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

August 22, 2007

- s.m.

SUMATI LEFKOWITZ
SUPERVISORY PATENT EXAMINER